

CLAIMS

1. [previously amended] A radiographic imager having a measuring device for determining the distance between an x-ray source and an image receptor associated with the radiographic imager, comprising:

a radiated signal source positioned at one of the x-ray source or image receptor associated with said radiographic imager and operative to project a radiated signal;

a detector positioned at the other one of the x-ray source or image receptor associated with said radiographic imager and operative to detect said radiated signal; and

a circuit connected to said radiated signal source and said detector, said circuit operative to determine the travel time of said radiated signal between said x-ray source and said image receptor, and thereby determine the distance between the x-ray source and the image receptor.

2. [previously amended] The device of claim 1, wherein  
said radiated signal is projected from said radiated signal source to said detector in a straight line, and  
said distance between said x-ray source and image receptor is determined by multiplying the propagation speed of said radiated signal by said travel time of said radiated signal.

3. [previously amended] The device of claim 1, further comprising a surface associated with said radiographic imager, and wherein  
said radiated signal is directed from said signal source to said surface;  
said radiated signal is reflected from said surface to said detector; and

the distance between said surface and the closer of said signal source and said detector is calculated as:

the propagation speed of said radiated signal multiplied by said travel time of  
said radiated signal  
less the distance from said source to said detector in the direction of said  
surface.

4. [original] The device of claim 1, wherein said radiated signal is selected from the group including a laser beam, ultrasonic signal, magnetic field, and RF electromagnetic signal.

5. [original] The device of claim 1, additionally comprising a display connected to said circuit, said display operative to display said distance between said two selected points.

6. [original] The device of claim 5, wherein said display is continuously updated as said distance between said two selected points changes.

7. [original] The device of claim 1, additionally comprising a power source connected to said radiated signal source via a switch, whereby said radiated signal source is placed in an operative state or an inoperative state responsive to said switch configuration.

8. [previously amended] A method of determining the distance between an x-ray source and an image receptor associated with a radiographic imager, comprising:

projecting a radiated signal from one of the x-ray source or the image receptor associated with said radiographic imager;

detecting the projected signal at the other of the x-ray source or image receptor associated with said radiographic imager; and

determining the distance between said x-ray source and image receptor based on the travel time of said radiated signal.

9. [previously amended] The method of claim 8, further comprising continuously displaying said distance to a radiologic technologist as said distance is changed by altering the relative position of a of an x-ray source and the image receptor.

10. [currently amended] A radiographic imager, comprising:  
a collimator housing containing a radiation beam source;  
an image receptor for receiving radiation and responsively forming a diagnostic image;  
and

a measuring device operative to directly determine the distance between said collimator housing and said image receptor by calculating the travel time of a radiated signal directed from a radiated signal source to a detector, said radiated signal source affixed to said collimator housing and said detector positioned in a known spatial relationship with said source and said image receptor.

11. [original] The radiographic imager of claim 10, further comprising a switch for toggling said radiated signal source between an operative and an inoperative condition.

12. [original] The radiographic imager of claim 10 wherein said measuring device comprises a radiated signal source for emitting a radiated signal and a detector spaced from said radiated signal source and operative to detect the radiated signal emitted by the radiated signal source.

13. [original] The radiographic imager of claim 12 including a circuit operatively associated with said radiated signal source and said detector for the determining the distance between said radiation beam source and said image receptor.
14. [original] The radiographic imager of claim 13 wherein said circuit is operative to determine the travel time of a radiated signal passing from the radiated signal source to the detector.
15. [original] The radiographic imager of claim 10 wherein said radiated signal source is selected from the group including a laser beam source, an ultrasonic signal source, a magnetic field source, and an RF electromagnetic signal source.
16. [original] The radiographic imager of claim 10 including a display that is operative to display the distance between said radiation beam source and said imager receptor.
17. [currently amended] A radiographic imager, comprising:
  - an image receptor;
  - an x-ray source spaced from said image receptor; and
  - a radiated signal source for directly determining the distance between said image receptor and said x-ray source, said radiated signal source selected from the group including a laser beam source, an ultrasonic signal source, a magnetic field source, and an RF electromagnetic signal source.
18. [original] The radiographic imager of claim 17 wherein said radiated signal source is operative to direct a radiated signal to a detector associated with said radiographic imager and

wherein the distance between said x-ray source and said image receptor is a function of the travel time of the radiated signal to move between the radiated signal source and the detector.

19. [cancelled]

20. [original] The radiographic imager of claim 17 further including a controller operatively associated with the radiated signal source and the detector for the determining the distance between the x-ray source and the image receptor based on the travel time of the radiated signal in moving from the radiated signal source to the detector.

21. [new] The radiographic imager of claim 10 wherein said detector is positioned in the plane of said image receptor and wherein said radiated signal travels from said radiated signal source directly to said detector.

22. [new] The radiographic imager of claim 10 wherein said detector is positioned proximate said radiated signal source and wherein said radiated signal travels from said radiated signal source to said image receptor and is reflected back to said detector.